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THE HOSPITAL X-RAY NURSE

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It has been only within the last few years that the Roentgen laboratory work has been a part of the nurse's training, but x-ray work is taking rapid strides in the land of science, and training schools are beginning to wake up to the fact that this is a valuable asset to the nursing profession.

I know of hospitals which, not so very long ago, did not allow the nurses inside the laboratory door. This was "safety first" and an important thing but there is not so much danger in these days with our modern machines and lead glass protectors; however, the x-ray nurse cannot be too careful in her manipulation of wires and tubes, sometimes very severe burns occur when least expected. A nurse should always stand away from the tube when the rays are in action, and when on regular duty in the x-ray laboratory, she should not expose herself unnecessarily, for we must remember that x-rays are like accumulative drugs and the action may be felt years after; the Roentgen apparatus has not been in use long enough to determine the danger; so the first hint in the work of the x-ray nurse is still "safety first," for herself and for her patient.

I had occasion, the other day, to meet one of the pioneers of radiography and therapy; one arm was gone, the other hand flecked with scars and burns which may eventually become carcinomatous. He tells me that he does not have to be in the room with active rays to feel their effects. His system is overloaded with their effects. Be careful!

Our laboratory is very well equipped and I think perhaps a sketch of it may be interesting to others who help in the x-ray room.

The fluoroscopy room has both the horizontal and vertical tables. The current is turned on in the switchroom and manipulated and regulated by a footswitch after the room is darkened. In this room I keep the "bismuth-meal tray" and the standard with enema apparatus ready for use. For a meal, I prepare barium sulphate, oz. iii, mixed with water to a paste and then add, fermented milk oz. xiii. When presented to the patient, I generally precede this with a glass of chilled water with oz. i of barium sulphate. Therefore the patient gets about three glasses of barium mixture at a meal.

For an enema or colonic filling I prepare barium sulphate, oz. iii, dissolved in water, q.s., kaolin, oz. iv, dissolved in water, q.s. Add this to 3 pints of tepid water. However, I usually make this up and store in one gallon quantities, and by adding a little hot water to heat instantly, I have an enema ready in almost no time.

The radiographic room contains both vertical and horizontal stereoscopic table and all radiographic diaphragms, surplus tubes, etc. I also keep here the necessary things for pyelographic cases, such as irrigators, etc.

The therapy room contains the tube stand and table for therapy and also the electro-thermic machine, the diaphragms and filters (aluminum and sole leather), area markers, sandbags, wooden angles and everything that we would use in giving treatments.

The machines are all manipulated from the switchboard in a separate room, called the switchroom or office, for here is kept the desk and typewriter, plate filing cabinet, stereoscope and plate storage. A lead wall divides this room from the others but is fitted with lead glass windows, so that every machine can be seen from the switchboard.

The dark room is very much like all dark rooms except that it can also have light and plenty of fresh air by opening the light-proof shutters and the window behind them. This room contains a Bowen tank, has hot and cold running water and porcelain draining sink, also an illuminating box and plate rack.

All the rooms are double ventilated, so that the ozone odor is quickly gotten rid of and the patients feel no ill effects of a closely-closed room.

Our work is done very quickly and silently and although our department is on the same floor as the maternity, there are never any complaints of noise, for the transformer is in the attic and the only sound is the purring of the motor which is really not at all annoying.

Filing system.—Requisition cards are distributed to the different floors. When a patient is ordered for x-ray examination, a card is filled out and sent immediately to the laboratory. A plate of lead letters is made of the patient's number and the date and a marker for "right" or "left" if necessary. This marker is placed on the plate before the ray and thus each plate is marked. After the plate has been developed and the diagnosis determined, a report sheet is filled out in duplicate from data on the requisition card and the findings of the roentgenologist are set down. The size of the plates used are checked off and the plates filed according to date and size, all 8-inch by 10-inch plates together, etc. One copy of this report goes to the floor to be inserted in the patient's chart, the other is filed in the permanent file in the laboratory, according to the first letter of the last name of the patient. This is a simple way to locate plates. When a patient is discharged from the hospital, the detachable portion of the report sheet on the chart is filled out by the clinician and torn off. This is sent to the laboratory and we are able to check our conclusions against the clinical diagnosis.

Preparation of patients. When a patient is ordered for a pyelography, he is prepared in his room. The area is scrubbed and a sterile pad applied. Operating stockings and gown are put on the patient and he is either brought to the radiographic room in the wheeled chair or on the carriage. The room is set up the same as for an ordinary cystoscopy with the x-ray extras; ten minutes is my limit for preparing the room.

For colonic fillings, two cleansing enemata are given one-half hour apart before the patient comes to the fluoroscopic room; this does away with a good many of the fecal and gas shadows and makes the filling much more comfortable for the patient. However, this is not done without the consent of the doctor in charge, for there may be some reason why he does not want the bowel disturbed. Unless for the same reason, two cleansing enemata should be given in the same way after the patient returns to his room in order to rid the intestines of any barium residue. Patients ordered for barium or bismuth meals are not allowed any breakfast and this meal, which is served in the x-ray room, is much more palatable when it is really chilled. The cream of wheat and barium meals are usually served in the patient's room about six hours before the examination. All previous treatment is carefully recorded on the requisition card and on the chart of the patient.

I sincerely believe that the Roentgen laboratory will play a very important part in the future training of the nurse and I think every pupil nurse should be taught how to prepare and give the necessary assistance to the roentgenologist in an intelligible manner. Not only will attendance at x-ray examinations tend to educate in the most advanced addition to medicine and surgery but it also strengthens and perpetuates the study of anatomy and physiology.